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PROBABILITY AS A GUIDE IN LIFE [1]

MANY philosophers are of the opinion—and I agree with them —that the concept of probability is of importance not only from a theoretical point of view but also in practice: it serves as a guide in life. We can never obtain certainty in predictions of future events but at best some measure of probability. We form our expectations of future events in accordance with their probabilities on the basis of the observations made so far, and these expectations influence our decisions.

It seems to me that there are *two* concepts of probability, two different meanings in which the word "probability" is commonly used.[2] Suppose a physicist ascribes the value 0.03 to the probability that the kinetic energy of a molecule in a given body of hydrogen lies within a certain interval. This means that 3 per cent. of the molecules are in such a state of energy. In this case "probability" means as much as "relative frequency in the whole population." On the other hand, if a scientist says that on the basis of such and such observations one hypothesis is more probable than another, he means to say that it is more strongly supported or confirmed by the given evidence. Thus "probability" here means "degree of confirmation." Let us use the term "probability$_1$" for this concept, and "probability$_2$" for the frequency concept. I believe that it is possible to define a *quantitative* concept of probability$_1$ so that it would be possible to make statements of the form "the degree of confirmation of the hypothesis h with respect to the evidence e is so and so much," specifying a numerical value. Statements of this kind express a purely logical relation between the sentences h and e, analogous to, though different from, statements of logical implication. While the latter statements con-

[1] This paper (without the footnotes) was read at the Meeting of the American Philosophical Association, Western Division, at Chicago on May 9, 1945.

[2] The distinction of the two concepts and the nature of inductive logic are discussed in "The Two Concepts of Probability," *Philosophy and Phenomenological Research*, Vol. V (1945), pp. 513–532, and "Remarks on Induction and Truth," *ibid.*, Vol. VI (1946), pp. 590–602.

stitute deductive logic, the former statements, in my conception, constitute *inductive logic.*[3]

Since there are those two different concepts of probability, we have to study the question as to which of them can serve as a guide in life. It will be the aim of this paper to show that this holds for the concept of probability$_1$, that is, degree of confirmation. Others deny this, in particular those who want to restrict the theory of probability to probability$_2$, that is, frequency. They believe that only the concept of probability$_2$ can be of help in making practical decisions because only a statement on probability$_2$ says something about the facts of nature. A statement on probability$_1$, on the other hand, is purely logical; if it is true, it is logically true, analytic; it does not say anything about facts. All of us agree in this characterization. But those philosophers draw from it the conclusion that a statement on probability$_1$ can not serve as a basis for our decisions, and hence can not be regarded as a genuine probability statement. It is this objection to the concept of probability$_1$, the denial of its applicability and usefulness for practical purposes, that I want to discuss.

The distinction between the two kinds of probability statements is, I believe, a special case of a more general distinction between two kinds of statements, a distinction which is important for the methodology of empirical science but has not so far been sufficiently analyzed and clarified. This is the distinction between (1) a statement about the actual value of a physical magnitude in a given case, a value which is either unknown to the observer or at least not known exactly, and (2) a statement about the *best estimate* of this value with respect to given evidence, which may, for instance, include the results of some measurements made by the observer. Suppose the observer has measured the length of a given rod three times, with the results, say, 80.0, 80.1, 80.5. Let us assume that the measurements were made under the same conditions. Then there is no reason for regarding any one of the three results as more reliable than any other. Therefore the observer will take as an estimate of the length of the rod the arithmetic mean of the three values, that is, 80.2. He can not assert with certainty that the actual length is 80.2 (not even if this figure is understood as an abbreviated expression for the interval 80.15 to 80.25). The value 80.2 is merely an estimate; that means, it is a guess; not an arbi-

[3] A tentative definition for a quantitative concept of degree of confirmation with respect to a simple language system and a few theorems of inductive logic based on the definition have been given in "On Inductive Logic," *Philosophy of Science*, Vol. 12 (1945), pp. 72–97. References in subsequent footnotes are to this paper.

trary guess but a sensible guess. It is indeed the best guess the observer can make in the present situation, as long as no results of further measurements are available to him. (For the sake of simplicity, I omit here a reference to the standard deviation, which would serve as a measure for the precision or the reliability of the estimated value.) Now let us compare the following two sentences which occur in this example:

(1) The actual length of the rod is 80.2. $l(a) = 80.2$.
(2) The best estimate of the length of the rod with respect to the given evidence e is 80.2. $l'(a,e) = 80.2$.

(The evidence e is here the statement of the three observed values 80.0, 80.1, and 80.5.)

The first of these two sentences is an empirical sentence, one with factual content. (We need not discuss in detail the problem of its exact interpretation; it may be interpreted, for example, as saying that the arithmetic mean of the results of the first n measurements would, with increasing n, converge towards 80.2.) The second sentence, on the other hand, is analytic. It is based upon the definition of "the best estimate." We may assume that this definition is constructed in such a manner that it implies that, for simple cases like the one under discussion, the best estimate is the mean of the observed values. The sentence (2) can not be either confirmed or disconfirmed by any future observations. Even if the results of future measurements tend towards a value considerably different from 80.2, it still remains true that 80.2 is the best estimate *with respect to the evidence* consisting of the three values stated earlier.

Let us suppose that the observer has to make a practical decision concerning the use of a given rod, a decision which depends upon the length of the rod. Then he proceeds, of course, as follows: he acts in certain respects as though he knew that the length was 80.2. Now let us analyze the theoretical basis of this behavior. I do not mean here the psychological question as to the actual process by which the observer arrives at this decision, but rather a rational reconstruction of this process. Which of the two sentences (1) or (2) may serve as a rational basis for the decision? We might be tempted to say that this must be the sentence (1). However, this sentence lies outside of the domain of the observer's knowledge at the present moment, that is to say, this sentence is not highly confirmed on the basis of his evidence.[4] Still less does

[4] The probability$_1$ on the evidence e for the assumption that the actual length is exactly 80.2 is 0; the probability$_1$ for the assumption that the actual length is between 80.15 and 80.25 is considerably lower than ½.

he know whether future observations will highly confirm it and hence suggest its acceptance or highly disconfirm it and hence suggest its rejection. Therefore the observer can not find a theoretical basis for his decision in sentence (1). But he finds it in sentence (2), because this sentence, added to the evidence available, supplies the value 80.2 which determines his decision. On the basis of his observations, he possesses the evidence consisting of the three values 80.0, 80.1, and 80.5. Then the sentence (2) tells him that, with respect to this evidence, the value 80.2 is the best estimate he can make. And this result determines his decision.

Generally speaking, situations of this kind may be characterized as follows. Practical decisions of a man are often dependent upon values of certain magnitudes for the things in his environment. Since he does not know the exact value, he has to base his decision on an estimate. This estimate is given in a statement of the form: "The best estimate for the magnitude in question with respect to such and such observational results is so and so." This statement is purely analytic. Nevertheless it may serve as a basis for the decision. It can not, of course, do so by itself, since it has no factual content; but it may do so in combination with the observational results to which it refers.

Now let us return to the problem of the concept of probability$_1$, that is, degree of confirmation. It seems to me that the situation here is to some extent analogous to that in the example just discussed. Suppose that a sample of eighty persons has been selected at random from the population of Chicago and sixty of these persons have been found to possess a property M. This constitutes the present evidence e. Let h be a singular hypothesis, namely, the prediction that one person taken at random from the non-observed part of the population will be found to have the property M. If a definition for the degree of confirmation c has been constructed, the value of $c(h,e)$ can be established, that is, of the degree of confirmation for the hypothesis h just mentioned with respect to the evidence e concerning the sample of eighty individuals. For our discussion the actual value of c is irrelevant. It may be remarked incidentally that for plausible definitions of c, the value in this case will be equal or near to the relative frequency of M in the observed sample, which was ¾. To make the example more concrete, let us arbitrarily assume that $c(h,e) = 0.73$.[5] If a

[5] For the present discussion it does not matter whether c in this case is equal to the relative frequency observed or only close to it (see *op. cit.*, p. 86). I have chosen here the slightly different value 0.73 in order to make it clear that the estimated value to be discussed in what follows is equal to the value of c (here 0.73) and not necessarily to the observed frequency (here ¾).

suitable general definition D for the concept of the best estimate in terms of degree of confirmation is laid down, then a theorem T can be proved which says that this estimate in cases of the kind described always has the same value as $c(h,e)$.[6] Applied to our example, T says that the best estimate of the relative frequency of M in the whole population of Chicago with respect to the evidence e has the same value as $c(h,e)$. We have assumed that $c(h,e) = 0.73$. Therefore the best estimate of the relative frequency in the whole population is likewise 0.73, hence close to the relative frequency observed in the sample, which seems plausible. Now let us compare two sentences concerning the present example; they are analogous to the earlier sentences concerning the actual length of a rod and the estimate of its length.

(1) The actual relative frequency of M in the population of Chicago is 0.73.
$fr(M,C) = 0.73$.

(2) a. The degree of confirmation for the singular hypothesis h with respect to the evidence e concerning the observed sample is 0.73.
$c(h,e) = 0.73$.

[6] Various methods of dealing with problems of estimation have been developed in modern mathematical statistics, but the situation is still rather controversial. I believe that a satisfactory general concept of the best estimate must be based on a concept of degree of confirmation. Suppose that a concept of degree of confirmation, say c, has been defined. For the sake of simplicity, let us consider a function (physical magnitude) $f(x)$ whose range of values is finite; let the possible values be $r_1, r_2, \ldots r_n$. Let h_i ($i = 1$ to n) be the hypothesis that $f(x) = r_i$. Then the definition D for $f'(x,e)$, that is, the best estimate of $f(x)$ with respect to the evidence e, is as follows:

$$f'(x,e) = \sum_{i=1}^{n} [r_i \times c(h_i,e)].$$

(This is what is sometimes called the expectation value of $f(x)$; compare H. Jeffreys, *Theory of Probability*, pp. 42f. Most contemporary theories of mathematical statistics give a different but analogous definition for the expectation value, using the frequency concept of probability instead of the concept of degree of confirmation, since the latter does not occur in these theories.) The theorem T mentioned in the text can now be stated as follows. Let e describe a sample with respect to a property M; let h be the hypothesis that an individual not belonging to the sample has the property M; let C be the whole population; let "fr" designate relative frequency, and "fr'" the best estimate (in the sense of the definition D) of relative frequency; then $fr'(M,C,e) = c(h,e)$. This theorem holds not only for one particular function c chosen as degree of confirmation but for a very comprehensive class of such functions, *viz.*, those which I have called symmetrical c-functions (*op. cit.*, § 5). They include, among others, all those functions which may be considered as adequate concepts of degree of confirmation.

According to the theorem T, this sentence is logically equivalent to the following:

b. The best estimate of the relative frequency of M in the whole population with respect to the evidence e is 0.73. $fr'(M,C,e) = 0.73$.

(Note, by the way, that the theorem T which connects (2a) with (2b) throws some light on the peculiar relationship that holds between the two probability concepts mentioned earlier. (2a) is a statement of degree of confirmation, hence a statement of probability$_1$. (2b) is a statement of the estimate of the relative frequency in the whole population, hence a statement of an estimate of probability$_2$. Therefore T says that probability$_1$ may be interpreted, at least in certain special cases, as an estimate of probability$_2$.)

Suppose that the observer has to make a practical decision, perhaps of an administrative or legislative nature, a decision depending upon his knowledge concerning the relative frequency of M in the population of Chicago. It is clear what he will do; he will act in certain respects as though he knew that the relative frequency was 0.73. But it is perhaps not immediately clear what the theoretical basis for this action is,—in other words, which rational procedure would lead to this action. Should the first or the second of the two sentences be taken as a basis for the decision? The proponents of the frequency conception of probability will perhaps say, the first, because this is a statement about the relative frequency in the whole and hence a probability statement in their sense. However, this first sentence is not known to the observer as long as his knowledge is restricted to the evidence e concerning the eighty observed individuals. The first sentence is not even highly confirmed on the basis of the evidence e. It is rather the second statement that may serve as a basis for the decision. This statement is known to the observer because it is, in either of the two equivalent formulations (a) and (b), analytic; it follows from the presupposed definition of the degree of confirmation c and, for (b), the definition D of the best estimate of a function. The statement (2b) is quite analogous to the earlier statement concerning the best estimate of the length of a rod. Here again, the statement about the estimate can not be either confirmed or disconfirmed by any future observations. Even if a complete census of the population of Chicago showed that the actual relative frequency were quite different from 0.73, this would by no means refute the statement that the best estimate *with respect to the evidence* e is 0.73. Here, as in the earlier case, the decision can be based on the given observational

evidence e and the analytic statement which gives the best estimate with respect to this evidence e. It is the value of this estimate or, in other words, the value of degree of confirmation that justifies the decision.

We obtain the same result if we consider the following situation. Suppose that the observer wants to make a bet on the prediction that an arbitrarily chosen individual has the property M. This prediction is the hypothesis h, to which the statement (2a) ascribes the degree of confirmation 0.73 with respect to the available evidence e. Thus on the basis of this statement the observer will decide to give odds of at most 73 to 27 (or, approximately, 3 to 1) on the prediction h. (The same decision could also, of course, be based on the statement (2b) concerning the estimate of the relative frequency.)

Our discussions have shown that statements of probability in the logical sense, that is, degree of confirmation, may be used as a guide for practical decisions. To use them in this way does not imply any apriorism, because these purely logical probability statements are not meant to be used in isolation but rather in application to the concrete knowledge situation at the time of the decision. Every decision is based on expectations. To find a rational basis for decisions we must have a rational method for obtaining expectations, and, in particular, estimations. Methods of this kind are used in the customary procedures of inductive thinking, both in everyday life and in science. These customary procedures contain *implicitly* the concept of degree of confirmation. To make this concept and thereby the procedures based upon it *explicit* is the task of inductive logic.[7] In thus helping to provide a clarified rational basis for

[7] I have said in an earlier paper (*op. cit.*, § 16) that it is the task of inductive logic to give a rational reconstruction (or explication) "of a body of generally accepted but more or less vague beliefs," namely, "of inductive thinking as customarily applied in everyday life and in science." Against this view Gustav Bergmann ("Some Comments on Carnap's Logic of Induction," *Philosophy of Science*, Vol. 13, 1946, pp. 71–78, see especially pp. 77f.) says that "the new calculus does not, in the philosophical sense, reconstruct anything. . . . If there is no philosophical problem of induction, then we cannot have any beliefs in this area, no matter how vague or how generally accepted, that are in any sense capable of rational reconstruction." It seems to me, however, that the following two items are historical facts which can not well be denied: (1) There are certain ways of inductive thinking in which all scientists practically agree without stating explicit rules; these ways of thinking are essential to science in the sense that without them scientific inquiry would be impossible. (2) Attempts at a rational reconstruction of these customary ways of inductive thinking have repeatedly been made, for instance, in the classical theory of probability (which may be regarded primarily as a theory of probability$_1$, not of probability$_2$), in the theories by

decisions, inductive logic can serve as a tool not only for theoretical but also for practical purposes.

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WHAT IS REALISM?

THE term "realism" once referred to a systematic mode of thought with distinctive principles clearly opposed to every form of subjectivism and idealism. At present this is no longer the case. Contemporary philosophical usage has allowed this word to fade into a murky cloud of ambiguity in which nothing very clear or distinct can be discerned. This tendency is not peculiar to any one school of contemporary thought, but is common to all schools, even those which have adopted the term in some form to describe their own positions. This paper embodies a few brief suggestions concerning the proper meaning of this term. It is hoped that an effort to clarify and sharpen the meaning of this now obscure epithet may be welcomed not only by friends but by enemies as well, since it is futile to attempt to oppose a mass of equivocations. In the interest of clarity in philosophical debate let us then ask ourselves what we mean by the common term "realism" at the present time.

It suggests to us, of course, the abstractly epistemological theories of the so-called neo-realists and critical realists who, *qua* realists, admittedly refrained from making any metaphysical assertions. But an isolated epistemology of this sort is a mere fragment whose ultimate philosophical bearing remains indeterminate. It is quite possible that such a theory, though decking itself out in a realistic terminology, might ultimately prove to be reconcilable with an idealistic or naturalistic metaphysics. Yet if we pay any

John Maynard Keynes and Harold Jeffreys, and in the methods of estimation developed in modern mathematical statistics. In view of the fact (1), this task of reconstruction is important for the methodology of science. My theory of degree of confirmation is merely a new approach towards the same aim. It does not claim to give a rational *justification* for the customary inductive procedures. When Bergmann says that my theory does not reconstruct anything and that there are no beliefs capable of rational reconstruction, perhaps he did not mean to deny the facts (1) and (2), but intended merely to say that no reconstruction *including a justification* is possible. It seems to me advisable to distinguish clearly between the relatively modest, though still important, task of reconstruction and the deeper-going task of a justification, which is still unsolved and even regarded by many as unsolvable. (On this task and its distinction from the former one, see my remarks at the place mentioned, *op. cit.*, § 16, with reference to Reichenbach's partial solution.)

attention to the history of thought, we must recognize the existence of a realistic metaphysics which is basically distinct from either. The present tendency to use the term in a narrowly epistemological sense utterly fails to bring out this basic distinction.

A Berkeleian idealist, for example, could perfectly well accept the whole neo-realist epistemology, which regards extra-mental realities as clusters of universals joined together. Berkeley made it quite clear that he also was a *realist* in this sense. He has no objection to *external things* composed of ideas, as long as matter does not creep into the picture. But matter is not a purely epistemological issue. Hence it is as conspicuously absent from the thought of neo-realism as it is from that of the most rabid Berkeleian.

In a similar way, the Cartesian idealist can perfectly well assimilate the critical-realist epistemology according to which we may indirectly infer the existence of some extra-mental reality from the ideas in the mind. Descartes, and even Berkeley, were both realists in this sense, for each of them believed that some such inference could be made from the ideas immediately present in the mind. Are we then to conclude that Descartes and Berkeley were really realists, though of a critical variety?

The attempt of modern realists (?) to work out a solution of certain epistemological problems in complete abstraction from metaphysics has not led to a genuinely realistic solution of these problems. It has led only to a general confusion in which the term "realism" has now largely lost even the distinctive epistemological significance which it once possessed. What is it to be an epistemological realist? It is to hold the view that the mind can actually know some reality. I doubt if ordinary usage would now enable us to go any further than this. But who then is not a realist? Is there any idealist, or, in fact, anyone at all, who would deny this proposition?

Even if we define realism as the theory that the mind can know realities which are independent of itself, there is still doubt as to whether we have excluded anyone save the most extreme solipsist. Certainly on the basis of this definition, Descartes, Berkeley, Kant, and Hegel would all be realists,—all philosophers, in fact, except perhaps Max Stirner and Bertrand Russell in certain phases. Must we then conclude with the positivists that practically everyone is a realist, and that the issue between realism and idealism is only a pseudo-issue now finally dead? I think not, unless we have already accepted the principles of an anti-realistic metaphysics. To define an opposing position in such a way as to make it look like an innocuous platitude is an old trick of debate. What is

surprising is that it should be accepted by many who call themselves realists.

But victories so easily won are apt to be vacuous victories. If the victory over realism is to have any genuine meaning, the term must be freed from equivocation and its basic metaphysical significance recaptured. It is only in the light of this basic meaning that its bearing on epistemology and other subordinate fields of enquiry may be properly understood. Here, then, in the interest of philosophical clarity, are a few preliminary suggestions as to the genuine meaning of metaphysical realism, and the primary theses to which such a realist is committed in the fields of logic, epistemology, and ethics.

I. Metaphysical Realism

The heart of realistic philosophy lies here. *As long as the all-embracing truths of metaphysical science were cultivated, and at least partially understood, realism was alive.* When these truths were first distorted by the decadent scholasticism of Wolff, and then neglected by his successors, realism began to die. As the name implies, realism is founded on the science of reality, the study of being *qua* being. This science is no longer properly understood. Many "realists," in fact, would repudiate it as mere idealistic speculation. So realism is dead.

According to the idealist, mind alone exists. According to the materialist, the material alone exists. Are these not metaphysical theses? Only in a vague and surreptitious sense! Neither thesis can be stated without the use of the concept of *existence.* Neither thesis can be stated without presupposing the concepts of unity and truth which follow after being wherever it is found. These are the proper objects of metaphysical analysis. What are they? But neither the one position nor the other raises these prior, strictly metaphysical questions. If these questions are not clearly answered, no question is clearly answered, for all questions presuppose these basic terms. *Hence these questions demand a prior answer by a prior discipline, not to be confused with the more special answers of more special disciplines.* This is not the place for a summary of realistic metaphysics. We must content ourselves with a few remarks on the connection between such a viewpoint and empiricism.

It is evident from even a superficial examination that there is no compelling reason why the concept of being, and the other most universal concepts everywhere attending it, must be restricted to the mental, or the extra-mental, or *any* generic category. No one of these nor all of them together can exhaust the full content of

existence. It is only in the light of the vast richness revealed by this concept that a truly empirical attitude can be preserved. This attitude is prepared to give itself up totally to the evidence, and to follow it wherever it may lead, no matter how strange or unexpected this may be. Many of the positions which now claim the right to use this honorific title for themselves hardly justify this claim in their actual procedure.

The Humian "empiricist," for example, approaches experience with his mind already made up on *a priori* grounds as to what experience must be,—atomic sense impressions. Never having focused the concept of being as such, he is ready without critical reflection to identify it with this familiar product of analysis, though, as Hume himself pointed out, any such impression may just as well *not be* as *be*. This, of course, is enough to show that the two concepts can not be identified. But the Humian "empiricist" never clearly focuses this necessary inference. Confronted with evidence for other modes of entity, he either attempts to reduce them to successions of impressions, or, when he can not do this, denies their existence in the face of the evidence. It is one of the amazing paradoxes of modern thought that the name "empiricism" should have been widely attached to this attitude of *a priori* dogmatism.

The realist, on the other hand, can be truly empirical. Abstracting all his concepts, including that of being, from experience, and focusing it in its inexhaustible richness, he is ready to look any evidence in the face without bigoted attempts to reduce it to something more familiar, or, when this fails, to deny it any existence. Every other concept restricts us to a certain determinate mode or kind of being beyond which lie real possibilities. The eyes of the true empiricist must never be closed to such possibilities if he is to do justice to the evidence. Beyond the concept of being lies no real possibility, but only absolute nothingness, the impossible. There is no danger in closing one's eyes to this. The concept of being alone may safely guide the genuine empiricist, who must be ever on the alert for any real possibility indicated by the evidence. In the light of this concept we can at once see the real possibility of a realistic alternative beyond either naturalism or idealism.

Both the material and the mental fall within the scope of the concept of being. Hence neither the one nor the other can be ruled out *a priori* as impossible before the actual examination of the evidence. Material entities are individual, quantitative, and changing. The evidence shows that such entities exist. Mental concepts are universal, non-quantitative, and changeless. The evidence shows that such entities exist. Hence realistic philosophy

must be distinguished from both idealism and naturalism, though it denies the existence neither of material things nor of ideas. What sort of philosophy then is opposed to realism?

Certainly not naturalism so far as it *affirms* the existence of nature, nor idealism so far as it *affirms* the existence of mind. There is adequate empirical evidence for both affirmations; so realism makes them both. To what then is it opposed? To naturalism so far as it *denies* the immaterial, and to idealism so far as it *denies* the material, in spite of the evidence. The inveterate enemy of realism is that subjective negativism which chooses arbitrarily to be guided by familiar though restricted categories rather than by the unrestricted concept of being, and the actual evidence presented.

To be a realist, it is not enough to hold that something is real. In this sense everyone is a realist. Realism is the philosophy of reality, based necessarily on the all-embracing concept of being, and the strict empiricism which this alone makes possible. This concept is unique, and can not be identified with any derivative category or mode of being, no matter how universal it may be. In particular, it can not be identified with that immaterial mode of existence which is possessed by objects of the noetic faculties, though the two are very apt to be confused. But in spite of idealism, being (*ens*) is distinct from being-before-the-mind (*ens rationis*) which brings us to the most basic implications of realism for logic.

II. Realism in Logic

The naturalist attempts to reduce all being to the level of the material events of nature. Hence he tends to confuse logic with psychology, regarding concepts as a peculiar kind of natural event by which certain organisms become adjusted to their environment. This leads him towards the positions traditionally known as nominalism and conceptualism. The idealist, on the other hand, rejects matter, and attempts to reduce all being to the level of mental objects. Hence he tends to confuse logic with metaphysics and philosophy in general. Concepts are the very stuff of reality. This leads him towards the position traditionally known as extreme realism. The world itself is made up of universal, logical entities.

These views have been so influential in modern times that the realistic view of logic has been almost completely submerged. Only a few distorted traces of it remain in that confused, eclectic conglomeration now called Aristotelian logic. Nevertheless the original Aristotelian *Organon* embodies a realistic logic which is radically distinct from the naturalistic and idealistic alternatives. We

must here be content with a brief exposition of three of its major theses.

(1) In the first place, *logic is a distinct science with a distinct, formal object of its own.* The object of metaphysics and the other sciences is being, *ens.* The object of logic is not being as such, but being so far as it is known, *ens rationis.* Realism is inconsistent with any attempt to confuse logic with metaphysics, the laws of thought with the laws of being. It is also inconsistent with any attempt to confuse logic with psychology, the laws of *true* thought with the laws of thought. These laws governing all *true* thought are normative principles like the principles of ethics. But ethical norms govern production or constructive action, each of which brings something new into existence. Logical norms, on the other hand, govern the apprehension of truth, which brings no new being into existence, but only logical relations or universals in the mind. Since all truth is known *by* such relations, logic, which studies their structure, is the universal instrument or *organon* of science. Each of these studies some *mode* or *kind* of being as its object. The object of logic is that relational, logical being by which all these are known. Hence it is quite distinct from all the other sciences. Nevertheless since the logical relations *by which* we know actually terminate in the being known, the object of logic partially coincides with the objects of the other sciences, particularly the objects of metaphysics, the most basic of the sciences. This is revealed by the fact of logical necessity, which brings us to a second major thesis of realistic logic.

(2) *The necessity of logic is derived from the necessity of things, not vice versa as the idealist supposes.* The rules of logical validity are those rules of thought which must be obeyed *if* the objective truth about being is to be attained. Since being is necessarily connected in certain ways, *true* thought must be connected in certain ways. It is because a contradiction can not *be* that the law of contradiction is a law of valid thought. If, as the strict idealist supposes, this is a necessary law of *thought,* and consequently of being, it would be unconditionally necessary, and a contradiction could never occur, not even in thought. But, as a matter of fact, the mind can fall into contradiction, though reality can not. If, as the positivist supposes, it is a mere linguistic convention, then logical necessity disappears entirely. It is just as easy to manipulate symbols in a contradictory as in a non-contradictory manner. The realistic position, which distinguishes *thought* from *the object of thought,* validity from truth, lies between these two extreme positions. The law of contradiction is not a law of thought. It is only a law of *valid* thought, i.e., of thought which thinks being as

it really is. A contradiction can not *be*. It can occur *in thought*. Hence the necessity of logic is derived from the necessity of being. When this connection is lost sight of, logical necessity is left with no foundation, and can not be explained.

(3) *A third fundamental thesis of realistic logic is the distinction between the predicaments and the predicables,* which is now seldom recognized even by those who are presumably defending a realistic position. Nevertheless it must be made if the idealistic mentalizing of reality is to be avoided. In its first act of apprehension, the mind identifies itself with some structural phase of an existent reality, say its quality or quantity. Ignoring its individual determinations, the mind simply regards this nature in a state of solitude, as it is in itself. Such a nature is not a construction of the mind, for it is actually found in the thing. Nevertheless when so regarded the nature is not individual, because the individuating notes are ignored. Neither is it a universal, for it is apprehended in a state of utter solitude, apart from any relation to other entities as their *genus, species,* or *accident*. This nature is a predicament, or real mode of existence. Once abstracted, it may be compared with many individuals possessing it, and predicated of them as a universal. This relation of universality between the predicamental nature and the many individuals capable of possessing it can not exist apart from the mind. Nevertheless it is founded on the predicamental nature which *does* exist apart from the mind, and is in no sense constructed or created as a novel entity.

The realistic thesis that actually existent, extra-mental realities may be known by the mind must be maintained without falling into either extreme realism or nominalism. The former, whatever it may call itself, projects universals outside of the mind as though they were self-existent entities. Thus it becomes unable to distinguish between being (*ens*) and being-before-the-mind (*ens rationis*), and tends to approach idealism, the outright denial of this distinction. The nominalist, on the other hand, materializes the mind, thinking of the universal as some sort of individual impression or construction of the mind. Thus it also denies the distinction, and tends to approach metaphysical materialism, which provides us with no adequate account of the facts of human knowledge. How then does the realist account for these facts?

III. Epistemological Realism

The realist, of course, holds that extra-mental reality can be known as it is. But, as we have seen, this vague proposition is not enough to distinguish realism from idealism and other opposed views. The voluminous discussion of recent attempts to revive

epistemological realism in England and America has, I think, revealed four further theses to which realism is necessarily committed. We must here be content with a brief commentary on these four essential theses.

(1) *Knowledge is a fact which must be empirically recognized and described, before we can hope for any adequate explanation of the fact.* This thesis is directed against the *a priori* manner in which the so-called problem of knowledge is often raised by those who ask whether knowledge is possible, without first examining the evidence to establish whether or not there is such a fact. The evidence shows that there is such a fact. Certain organisms are able to assimilate certain structural phases of the external environment which do not materially inhere in them. This is a fact which must first be accepted with natural piety. Then the task of epistemology, like that of any science, is to work out an explanation for this extraordinary fact. Is this not a begging of the question? No, because *the fact* is not the same as *the reasoned fact,* which is causally explained. No genuine science constructs its facts out of *a priori* possibilities. It first recognizes the facts, and then attempts to provide an adequate explanation.

(2) *The extra-mental reality is known by something in the knowing organism which is existentially distinct from, but formally identical with, the object known.* The first part of this thesis has clearly emerged as a result of the discussion of American neo-realism. If things become known by their sheer physical presence without any vicarious representation in the knowing faculty, the actual facts confront us with three insuperable difficulties. First, we can not explain the knowing process as a passage from ignorance to awareness which is certainly *in* the mind, not outside it. Second, we can not explain why we should not know everything that is present at once, with equal clarity. Third, we can not explain how the noetic faculty can ever fall into error. These difficulties can not be met without supposing that external things are known by some vicarious substitute that is present in the noetic faculty.

The last part of the thesis is clearly dictated by the fact of knowledge itself. This fact is not any sort of making or creating. To know is precisely not to bring anything *new* into existence. This is to mould or construct. To know is to assimilate something already in existence, just as it is. Hence the vicarious representative in the mind must be identically related to what it represents. The two are existentially distinct, but formally the same.

(3) *This mental substitute for the external thing, though it is present in the whole knowing organism, is nevertheless not physically present in it, as its physical structure and qualities.* It must

be present in a radically different manner which we may describe as intentional or immaterial in character. A realistic theory of knowledge can not be reconciled with a consistent materialism. The reason is that any form or structure which is materially present, is subjectivized and individuated by the matter in which it is physically present. Such an entity belongs to *this* matter, and can not be identical with any *other* subject. Materialism in approaching the problem of knowledge leads necessarily to subjectivism and solipsism, and ultimately to the denial of knowledge (intentional identification with objects not subjectively inhering in the knowing subject). But knowledge is a fact. Hence materialism is false. Indeed, the difference between subjective or *physical* presence and objective or *noetic* presence is easily demonstrated. Thus there are many things (such as intestinal convolutions) which are physically inherent in us, which may not be noetically present at all. Also it is possible for me to think of innumerable things which are not inherent in my organism, nor even physically present at all, such as past events. Physical presence in a material subject is not the same as noetic or immaterial presence before a noetic faculty.

(4) *Finally, external things are directly or immediately known by our noetic faculties.* The necessity for this realistic thesis has been clearly revealed by the discussion of the theory of indirect or critical realism which held that the existence of external realities must be *deduced* or *inferred* from essences or immaterial entities immediately present in the mind. This theory also has insuperable difficulties. For example, it does not explain how the essence is known, beyond suggesting that it is immediately "in" the mind. But as we have seen, many things can be physically "in" the organism without being directly known. In the second place, if all the immediate objects of knowledge are mental existences, how do we ever gain the concept of anything "external"? Third, the theory is contradicted by the empirical facts which show that we are directly aware of external physical things, not immaterial essences. This type of Lockian representationalism is really inconsistent with realism, which must maintain that the immaterial species *by which we know,* is not the immediate object *which we know.* The direct, immediate objects of knowledge are the physical natures of things around us. This is what we must first know if we know anything at all. Hence no demonstrative argument for the existence of external things can be given. Any demonstration or inference must rest on something already known, and external existences are what we first know, before we know anything whatsoever. So there is a very good reason for the notorious failure of all attempts to demonstrate the existence of an external world. This is a *first principle*

from which all further inferences must proceed. To attempt to demonstrate a first principle betrays not so much a search for wisdom as a naïve lack of education.

IV. Realism in Ethics

In the field of practical philosophy, realism means much more than a mere belief that values are subjectively experienced, and that we may objectively describe these experiences. The most extreme subjectivist can be quite objective about his own subjectivity. In accordance with the evidence of the moral facts themselves, *realism must maintain that values are real and independent of the desires and interests which this or that group may happen to have.* Goodness is no more determined by prevailing interest than truth by prevailing opinion. To assert either thesis is to fall into a subjectivism which can not be reconciled with the first principles of realism, that the world has a stable order which can be known as it is, irrespective of the shifting flux of dogmas and desires. What is really good is part of this stable order, and remains what it is without reference to the shifting appetites of this or that man or group. The rejection of moral subjectivism of this sort is certainly essential to any genuinely realistic position.

This does not mean, however, that values must be conceived as non-relational essences or properties (cf. Hartmann and G. E. Moore). The goodness or perfection of man is certainly relative to man, not to the incidental appetites of this or that man, but to the natural tendency of human nature as such towards that which really completes it. No one can truly grasp this nature without also grasping something of that general pattern of activity which is required by this nature for its proper perfection. This general pattern of right action is the moral law, or the law of nature, which must lie at the root of realistic ethics and practical philosophy.

V. Conclusion

This, I think, will be sufficient for the formulation of a precise definition of realistic philosophy which must include three distinctive notes. First of all, in metaphysics it must be based upon an analysis of the concept of being. Guided by this concept realism can confront experience with an attitude that is unmitigatedly empirical, ready to follow the evidence wherever it may lead. This evidence requires a recognition of the fundamental distinction between the mental and the extra-mental, and, therefore, between metaphysics with the other sciences of *being,* and logic, the science of *mental being.* In logic and epistemology, following the empirical

facts, realism must recognize the capacity of the noetic faculties immaterially or objectively to identify themselves with entities which are materially or subjectively distinct from themselves. In practical philosophy, it must base itself neither upon nature alone without reason, nor upon reason alone without nature, but upon that rational understanding of the universal nature of man which must lead to an apprehension of the law of nature.

These are the three most essential phases of any genuinely realistic philosophy. If any one of these is absent from a philosophy, we must question its realistic character: in metaphysics, *realism;* in epistemology, *rationalism;* in practical philosophy, *the law of nature.* These factors are distinct but inseparable. One can not be denied without forcing any consistent thinker to deny the others as well. They constitute the essential core of any true philosophical realism.

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COMMENTS AND CRITICISM

DE LAGUNA'S INTERPRETATION OF G. H. MEAD [1]

It would be surprising indeed if Mead's immediate students would allow Professor de Laguna's interpretation of Mead to pass without further comment. She speaks of Mead's failures, inadequacies, and fundamental fallacies without, I think, having Mead's broader perspective and problems in mind. Mrs. de Laguna says she is "not concerned to discuss here the subtleties of Mead's treatment of space and time." And she makes what I consider to be a false statement, namely, " 'Physical' object here [for Mead] does not mean the object of physical science but that of ordinary human experience."

What I am suggesting is that without an appreciation of Mead's physical theory it is impossible to understand his doctrine of sociality at all, and if one does understand Mead's broader problem, as stated more fully in *The Philosophy of the Act* and especially in *The Philosophy of the Present,* Mrs. de Laguna's criticisms seem trivial if not altogether irrelevant. Let us consider some of the points she makes.

"Mead's failure to consider a community of end to be essential to coöperation, . . . is even more evident in his extending the concept to include responses to physical objects" (p. 227). Mrs. de

[1] See "Communication, the Act, and the Object with Reference to Mead," this JOURNAL, Vol. XLIII, (1946), pp. 225–238.

Laguna's argument is that "coöperation" should not refer to acts beyond the human level and to human acts only when the persons engaged have a "common end" clearly conscious to all engaged in the act. Obviously this is a matter of definition of "coöperation" as Mrs. de Laguna will recognize, but I suppose she would contend that Mead's definition (at least his use of it) is insignificant. This I want to deny. What Mead wants to explain is that there are different kinds of coöperation even as there are different kinds of sociality, but that fundamentally all kinds involve some sort of interaction. Mead wants to get at the genetic and biological basis of the more complicated and historically later kinds of coöperation by starting with the simple type. He uses the "dog fight" as a simple type of coöperation in order to explain exactly the difference between that kind of interaction and the kind that is possible when "one can call out in himself the same response that is called out in the other." Since Mead does this, it is consistent for him to take the *act* as a primitive concept or as a metaphysical basis with reference to which all types of *interaction* are made intelligible. If Mrs. de Laguna wants to substitute the word "interaction" for "cooperation," that is legitimate provided it is used in a significant way and is used consistently. But we would still have the problem of explaining the qualitative difference between types of interaction from a naturalistic point of view.

Apparently Mrs. de Laguna wants to reserve the word "cooperation" for acts in which communication by way of significant symbols is involved. Mead did not choose to so use that word and, therefore, any criticism of his use of it must be from the standpoint of his consistency in the use of it. That is the challenge he presents to his readers. I do not think Mrs. de Laguna has found any inconsistency. Rather, as any reader will find, Mead's general use of "coöperation" enables him to develop a theory of universal sociality in *The Philosophy of the Present*. There he writes: "The social character of the universe we find in the situation in which the novel event is in both the old order and the new which its advent heralds. Sociality is the capacity of being several things at once" (p. 49).

Obviously if one starts with social psychology, as Mead did (and one must start somewhere), and if one assumes that the universe hangs together in an intelligible manner, then it would be easier to carry the fundamental concepts into related fields and finally into a general metaphysical system. It is not only easier for Mead to generalize the concept of coöperation and sociality, but it is a significant part of his philosophy in the sense that he believes the logical structure of nature, in so far as it is intelligible, must have

its basis in the structure of the social psychological process of interacting, communicating social selves. Mead's problem is not: Which is fundamental or primary, the self or society? Rather it is: What is the functional relationship between selves and society? And although Mead is able to state the qualitative differences between the *I* and the me (the subjective and the objective) his main problem is to show how communication takes place. Here it is important to note that adjustment due to the novel (the emergent) is the central issue in Mead's philosophy [2] and that, just as communication takes place between and among selves because of novel situations and just as the novel is the stimulus for reflective thinking, so in all non-human interaction the novel is the basis for adjustment and for sociality. He writes:

> The social nature of the present arises out of emergence. I am referring to the process of readjustment that emergence involves. . . . I am here using the term "social" with reference, not to the new system, but to the process of readjustment.[3]

It is not practical at this time to go further into a discussion of Mead's use of "coöperation" and "sociality." But let us proceed to what Mrs. de Laguna considers a fundamental weakness in Mead's conception of "communication"; namely, communication takes place when one, through significant symbols, calls out in himself the same response that he calls out in the other. Mrs. de Laguna cites the common case (p. 232) in which "The naughty child evinces his understanding of his mother's command, 'Come in and do your homework!' as much by running away, or by pleading a headache, as by obedience." Certainly Mrs. de Laguna misses the point here. It is simply this: In so far as the mother calls out the same response in the child as she calls out in herself, there has been communication. Mead does not say "calling out the same response in the other as one calls out in himself" means both listener and speaker must perform the act overtly! The response usually takes place only covertly in the one who gives the command and must take place covertly in the listener *before* it can take place overtly. But it may not and need not take place overtly in either speaker or listener. Nevertheless communication does not take place unless the response in both communicants takes place covertly. It may also, and often does, take place overtly in the listener. The *attitude,* the tendency to respond (the idea of the act—the internalization of the act—the collapse act), must be alike in at least two per-

[2] See the writer's "G. H. Mead's Conception of 'Present,'" *Philosophy of Science,* Vol. 10 (1943), pp. 40–46.

[3] *The Philosophy of the Present,* p. 47.

sons before communication is possible, and if that tendency to respond alike has been effected through symbols, there is communication. The child must first have the attitude of doing homework or the implicit response of doing it *before excuses for not doing it can be made.* In turn, in so far as the mother responds implicitly to the excuses there is further communication between the two. But without these implicit responses, there could be no communication, and they constitute the nerve of communication.

We must remember, further, that Mead defends the proposition that men condition themselves (through significant symbols and reflective thinking) and, therefore, *select* the stimuli to which they respond. Consequently if it were the case that every person always carried out the command of another person, there would be no selection. But nevertheless selection implies alternative possible courses of action, the rejection of some, and the acceptance of others. Mrs. de Laguna leaves us with the impression that communication requires an immediate explicit fixed response to the symbols of the speaker. Communication can not require that sort of response necessarily. That would be more like conditioned response in which there is no communication necessarily.

Mrs. de Laguna writes further:

> Being selves is never a merely reciprocal affair between two individuals, in which they are mutually ends and means for each other. There must be involved the relation of each to a third factor, an end objective to each, which is integral to their reciprocal relationship to each other. It is this which Mead neglects in his treatment of human coöperation and communication through significant symbols. [P. 229.]

I do not think Mead would subscribe in full to the above quotation. If Mrs. de Laguna means that coöperation and communication can take place only when the communicants have the *same end,* then I believe she is mistaken. I do not understand Mead to say this and furthermore, I believe he denies that this is necessarily the case. It could be set up as an ideal, and possibly Mrs. de Laguna intends it to be so, but in fact it is not always so and need not be so in order to have both communication and coöperation. Whether it is desirable is another question. We find that Mead does treat this problem carefully in his article "The Genesis of the Self," and elsewhere. He writes:

> A social act may be defined as one in which the occasion or stimulus which sets free an impulse is found in the character or conduct of a living form that belongs to the proper environment of the living form whose impulse it is. I wish, however, to restrict the social act to the class of acts which involve the cooperation of more than one individual, and whose object as defined by the act, in the sense of Bergson, is a social object. I mean by a social object

one that answers to all the parts of the complex act though these parts are found in the conduct of different individuals. The objective of the act is then found in the life-process of the group, not in those of the separate individuals alone.[4]

If the social object is to appear in his experience, it must be that the stimuli which set free the responses of the others involved in the act should be present in his experience, not as stimuli to his response, but as stimuli for the responses of others; and this implies that the social situation which arises after the completion of one phase of the act, which serves as the stimulus for the next participant in the complex procedure, shall in some sense be in the experience of the first actor, tending to call out, not his own response, but that of the succeeding actor.[5]

The mother and the child may have different purposes or ends when the child "does her homework." Yet there is coöperation and communication. The buyer and the seller may have different motives for a business transaction; yet there is communication and coöperation. Is it possible to have absolutely common motives and still have individual selves? This is the question to which Mrs. de Laguna must address herself in her criticism of Mead's "neglect." Mead never intended to suggest that the self can or should identify itself with society. Rather communication and coöperation can take place in a world in which selves maintain their peculiar identity. As we have indicated above, his problem is this: What is the functional relationship between selves in a community of selves? But Mead could never subscribe to the rationalistic, idealistic tendency to sacrifice the individual to the "whole."

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A NOTE ON CATEGORIES

Professor Edel has recently pointed out certain difficulties in Professor Murphy's criticism of W. R. Dennes's article "The Categories of Naturalism."[1] The present remarks are supplementary to Edel's article. My contention is that Murphy's criticism is invalidated by the fact that he ignores an important and central portion of Professor Dennes's views.

[4] *The Philosophy of the Present*, p. 180.

[5] *Ibid.*, p. 181.

[1] A. E. Murphy, review of *Naturalism and the Human Spirit*, this JOURNAL, Vol. XLII (1945), pp. 400–417; Abraham Edel, "Is Naturalism Arbitrary?", this JOURNAL, Vol. XLIII (1946), pp. 141–152; W. R. Dennes, "The Categories of Naturalism," in *Naturalism and the Human Spirit*, ed. by Yervant Krikorian, New York, Columbia University Press, 1944.

Stated briefly, Murphy's argument is that Dennes is guilty of a serious inconsistency. On the one hand, Dennes contends that one's selection of categories makes no difference to the results of any inquiry in which those categories are used (provided, of course, that the inquiry is properly carried out). But, on the other hand, he seems to use his own favorite categories of event, quality, and relation to exclude from consideration a large number of possible existents. Hence, he seems to be contending that "it makes no difference what philosophical categories you accept as basic, provided you have already accepted those of his philosophy."[2]

If this is a valid criticism, it is extremely damaging. But the point which has been missed is that, roughly speaking, anything can be explained in terms of anything else. Dennes is quite explicit on this point:

> . . . since any relation of any *B* to any *A* is in fact equally a relation of that *A* to that *B* and may always legitimately be formulated as such, a choice of categorial traits as basic referents in explanation can make no legitimate difference whatever to the content of any descriptive or explanatory theory, but only to the language employed in formulating the theory. This will hold whether the traits selected as categorial are widely pervasive of existence or are very rarely manifested, . . . indeed, it will hold, whether they are imagined traits or configurations, for whose occurrence there is no evidence, or are traits and configurations, instances of which are actually observed.[3]

This seems explicit enough. As Murphy recognizes, Dennes's choice of categories is motivated by practical considerations; but one of those considerations is precisely the fact that anything whatever which we actually encounter or infer can easily be explained *in terms of* events, qualities, and relations. It seems obvious to the point of truism that a choice of categories excludes nothing. To take a rather humble example, the habit which certain writers on psychiatry have of explaining mental deviations in terms of an imaginary "well-adjusted" man most certainly does not exclude those commonly encountered things called "neuroses" and "psychoses." To explain the number three as the successor of two certainly does not commit us to the position that we can not explain two as the predecessor of three. It may be argued, of course, that such mutual explicability is possible only where there is some homogeneity between the explicans and the explicandum. But Dennes thinks not, and contends that F sharp can be explained in terms of the color red.[4] He may be wrong about this—that is not

[2] Murphy, as cited, p. 411.

[3] Dennes, as cited, p. 275. Cf. his remarks in *The Philosophy of George Santayana* (The Library of Living Philosophers), p. 435.

[4] Dennes, as cited, p. 276.

the point. At any rate, he contends that this is the case, and any criticism of his views must take account of this contention.

In the light of such a view we can better understand Dennes's statement that "nothing that goes on and no human argument implies, or even makes sense of, any notion that events require for their occurrence or for their explanation any grounds, controlling orders, laws, principles, causes, purposes, values which are anything more than further stretches of" (qualitied, related) "events." This statement is not intended, as Murphy supposes, to be analytic, following from the definitions of "event," "quality," and "relation." It is a synthetic statement. Dennes is stating that, *in fact*, he believes that there are no grounds for positing such principles, controlling orders, etc. *If* we encountered or inferred such things, we could readily *explain them in terms of* event, quality, and relation (not *reduce* them to). A Platonic Idea, for instance, could be contrasted in point of permanency and stability to the temporal limitation and instability of an event, etc. Of course, this argument would fail if one posited a realm whose members were totally unrelated to the events, qualities, and relations which we do encounter. But by definition, we could have no knowledge of such a realm, either direct or inferential. Certainly the burden of proof is with those who contend that such transcendent realms exist.

In the light of the foregoing remarks, it should be clear that there is at least no inescapable ground for believing that Dennes is trying to settle any question of existence by stipulation. His position would not be affected even if it were shown that events, qualities, and relations do not exist. Whether or not they do is an empirical question. How such categories are to be "justified" depends on one's view as to the rôle of categories. If we start from the assumption that categories are highly pervasive parts of existence, it seems obvious that we can only justify our categories by "going out and looking" to see just how pervasive various types of entity are. If we start from the assumption that categories are explicative tools, then the question is a pragmatic one, to be judged in the light of specific inquiries making use of these tools. To say that such justifying procedures themselves require justification involves us, as Edel suggests, in an endless regress of categories used in justifying categories—unless, of course, we believe that there are some bed-rock categories. But how could *this* belief be justified, and in terms of what categories would we justify it? As an alternative to the stipulative use of categories, Murphy seems to offer us the use of no categories at all.

It is, of course, quite possible that Murphy's criticisms remain effective. No attempt has been made to show that Dennes's neo-

Leibinzian view of the mutual explicability of categories is totally correct. But any criticism which neglects this phase of Dennes's philosophy will fail of being conclusive.

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BOOK NOTES

Religion of a Scientist. Selections from Gustav Th. Fechner. Edited and translated by WALTER LOWRIE. New York: Pantheon Books, Inc. 1946. 281 pp. $3.50.

William James and Elwood Worcester both profoundly admired the religious philosophy of the German scientist, Gustav Theodor Fechner, but failed in their effort to publicize him. Mr. Lowrie, whom we all have heard of in connection with Kierkegaard, continues that effort in this book, where he edits and translates the great psycho-physicist. Mr. Lowrie feels that Fechner's religion is a good inducement to turn from a suffocating mechanistic *Weltanschauung*—perhaps even to the most satisfying position of all, Kierkegaard's Christian mysticism. So he dedicates this work to Worcester, "a mystical liberal or liberal mystic."

In his "introductory," Mr. Lowrie portrays mechanism as a liability even to scientists and so allots Fechner two major portions of the book, (1) on souls and the soul-life of plants, (2) on immortality and God. A shorter first section is given to faith. The line of argument throughout is not calculated to convince the ordinary scientist, which Mr. Lowrie is, however, partly aware of and not bothered by. He appeals to Pascal's aphorism, that only he seeks God who has already found Him, and avers that, after all, consistency is not for him (Lowrie) a pearl of great price. He prefers theories and theorizing with a tonic or therapeutic efficacy. That is why Fechner's sudden and mysterious recovery from a breakdown at the age of forty after overwork is attributed by Mr. Lowrie to the espousal of a correct philosophy, one having the power to heal a soul starved on scientific pabulum.

V. C. A.

The Things That Matter Most. RALPH TYLER FLEWELLING. New York: The Ronald Press Company. 1946. ix + 530 pp. $3.75.

This book is primarily an anthology of writings on values, and serves as text for a course which, at the University of Southern California, "has passed . . . to popular and successful standing after some years of testing." It divides into four parts, "Values Defined," "Five World-Concepts of Human Values," "Six Pro-

ponents of Value," and "Self-Realization as Value," with selections from such sources as Confucius, Aurelius, Isaiah, Boethius, Dante. Planck and Compton represent scientific opinion in values which, of course, are from the first the "things that matter most." Professor Flewelling prefaces the four major parts with introductory essays, and to the chapters questions are appended for class discussion.

As an instrument for spreading the gospel of the newly-awakened humanities, text and course are probably valuable. But they are marred by an inadequate philosophy of science. Practically all the pronouncements on science with its method (even those culled from Compton and Planck) are aimed either at making it indistinguishable in its highest reaches from religion and art, or at making it inferior to theoretic preoccupation with values—the things that matter most. Especially is the author of this volume anxious to exempt value-judgment and value-theory from the controls associated with scientific caution. In short, the lesson in these pages is to turn from stagnant analysis to stirring synthesis. Even *scientific* advance is portrayed as the fruit of synthesis, a "leap in the dark through which the mind comes to construct a universe of meanings *profitable* to human experience" (italics not in text). Any understanding (analytic) that is less lush than this synthetic sort "becomes a menace to society." Such fervor for values is not likely to win a sober and steady clientele for the things that matter most. At best, it will remind men of the truism that factual knowledge should be suffused and made mellow with wisdom. What this book stresses beyond this important truism, or the kind of defense it gives it in general, appears in the questionable and sometimes perplexing colors of traditional metaphysical idealism.

V. C. A.

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The desperate and continued need for American publications to serve as tools of physical and intellectual reconstruction abroad has been made vividly apparent by appeals from scholars in many lands. The American Book Center for War Devastated Libraries has been urged to continue meeting this need at least through 1947. The Book Center is therefore making a renewed appeal for American books and periodicals—for *technical and scholarly books and periodicals in all fields* and particularly for *publications of the past ten years.* We shall especially welcome complete or incomplete files of the *Journal of Philosophy.*

The generous support which has been given to the Book Center has made it possible to ship more than 700,000 volumes abroad in the past year. It is hoped to double this amount before the Book Center closes. The books and periodicals which your personal or institutional library can spare are urgently needed and will help in the reconstruction which must preface world understanding and peace.

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